Passive tags used with Frequency Hopping Tag Reading systems operating in Section 15.247.
Frequently Asked Questions

Q: Is a passive tag subject to Certification?
A: No, a passive tag does not contain batteries and by itself is not authorized.

Q: Are passive tags tested for Certification?
A: No, only the tag reader needs to be tested. At this time, the current technology for passive tags is such that the emission levels from the passive tags are much lower than the allowed levels for the tag reader. However, even with the low emission levels, the fundamental passive tag emission(s) may not operate within a restricted band just as the tag reader is prohibited from operating in a restricted band. The tag reader receiver should never include restricted band frequencies.

Q: How can compliance with the transmit and receive nominal bandwidth matching requirement in Section 15.247(a)1 be achieved?
A: This requirement is achieved by the tag reader not the passive tag. The receive bandwidth in the reader must nominally match or can be less than either the modulated signal from the tag reader signal or the passive tag signal. The receive bandwidth can be achieved with the use of baseband/DSP filters and does not have to be centered with either the passive tag signal or the tag reader signal.

Q: Is there a limit on the bandwidth of the fundamental emission from the tag reader or the passive tag signal?
A: The maximum 20dB bandwidth of the modulated signal from the tag reader is used to determine the Channel separation requirements for the tag reader. This must be considered when determining the designed bandwidth whenever there is a minimum number of hop frequencies required. Since the emissions from the passive tag are much lower than the allowed levels for the tag reader, we are not worried about the bandwidth of the passive tag signal.

Q: Can the Tag Reader utilize a CW signal?
A: A tag reading system that uses only an un-modulated CW signal cannot operate under Section 15.247 but may operate under another rule such as Section 15.249 because Section 15.249 does not have a modulation requirement. Under Section 15.247, a tag reader system can send CW signals as part of a half duplexed signal on each hop frequency. The half-duplexed signal consists of the modulated reader signal followed by the CW signal. The modulated signal sends data to and is received by the tag. The CW signal is used only to power the passive tag. For example, the tag reader sends a modulated data signal for 7 msec, followed by a CW signal on the same frequency for 7 msec to power the passive tag before the reader hops to the next frequency. A short CW burst prior to the half duplexed signal can be used to wake up the tag.